

### **REMARKS**

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

#### **Claim Amendments**

Claim 1 has been amended to recite that the stretched product is obtainable by stretching the glycolic acid homopolymer at 45-60°C at a stretching ratio exceeding 3×3 times. Support for this claim amendment can be found in the Examples set forth on pages 21 and 22 of Applicants' specification.

#### **Request for Consideration of Information Disclosure Statement (IDS)**

Applicants note that an IDS was filed November 9, 2009, which was one day prior to the mail date of the outstanding Office Action. Applicants respectfully request that the Examiner consider the IDS, and forward an Examiner-initialed Form PTO/SB/08 to Applicants' representative with the next correspondence.

#### **Summary of Telephonic Interview with Examiners**

Applicants wish to kindly thank the Examiner and her Supervisor for providing their time and helpful suggestions during the telephonic interview of February 5, 2010.

During the interview, Applicants' representative discussed the Examiner's position that the burden is on Applicants to demonstrate that the product of Shiiki et al. does not contain identical properties to the product of Applicants' claims. Applicants' representative directed the Examiners' attention to the comments set forth on pages 6 and 7 of Applicants' response filed August 20, 2009. Applicants' representative argued that the results of the Comparative Examples and Examples in the specification demonstrate that the effects of Applicants' invention may only be achieved at a temperature just above the glass transition temperature, **and** at a large stretching ratio exceeding 3×3 times. Applicants' representative further asserted that these results demonstrate that the effects of Applicants' invention cannot be attained through blow molding at 85°C at a stretching ratio of 2×3 times, as in Shiiki et al., and accordingly, the product of Shiiki et al. does not contain identical properties to the product of Applicants' claims.

The Examiners suggested that Applicants include the stretching ratio and temperature in the language of independent claim 1. The Examiners also suggested that Applicants again provide comments regarding the results of the Examples and Comparative Examples of the specification.

Applicants kindly thank the Examiners for these helpful suggestions, and have followed the Examiners' guidance in this response.

### **Patentability Arguments**

The patentability of the present invention over the disclosure of the reference relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

### **Rejection Under 35 U.S.C. § 102(b)/103(a)**

Claims 1-7 and 9-12 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Shiiki et al. (EP 0925915). This rejection is respectfully traversed.

### **The Position of the Examiner**

The Examiner takes the position that Shiiki et al. disclose a gas barrier multi-layer hollow container with a polyglycolic acid layer, wherein the blow molding process to make the hollow container includes a stretch blow molding process. The Examiner asserts that the container has a layer that is a stretched product of crystalline aliphatic polyester.

The Examiner admits that Shiiki et al. do not disclose that the aliphatic polyester has a crystal melting point higher by at least 3°C and 5 °C than that of an unstretched product, the sub-dispersion peak temperature, the main dispersion peak temperature, or the orientation degree measured by wide-angle X-ray diffractometry.

The Examiner asserts that Shiiki et al. disclose that the “stretch blow molding process” is a process in which stretching is conducted upon blow molding, thereby orienting the molecular chain of a polymer to enhance the physical properties of the polymer. The Examiner further states that in order to enhance such physical properties, it is essential to keep a parison at a

temperature not higher than its melting point, but not lower than its glass transition point upon stretch blowing. Lastly, the Examiner asserts that the composition of the polyglycolic acid layer and the crystalline aliphatic polyester disclosed by Applicants are substantially similar in structure and chemical composition, and that products of identical structure and composition cannot have mutually exclusive properties. The Examiner indicates that the burden is on Applicants to prove otherwise.

#### Applicants' Arguments

Initially, as discussed above, Applicants have amended independent claim 1 to indicate that the stretched product is obtainable by stretching the glycolic acid homopolymer at 45-60°C at a stretching ratio exceeding 3×3 times. As discussed in the second paragraph on page 7 of Applicants' response filed August 20, 2009, in Example 4 of Shiiki et al. (the only example of a cold stretched blow molding process for PET/Adh/PGA/Adh/PET laminate in the reference), a stretched temperature of about 85°C and a stretching ratio of 3×2 times is used. Accordingly, the Shiiki et al. reference clearly fails to teach or suggest the stretching temperature and ratio recited in Applicants' amended claims.

Furthermore, the Examiner has indicated that the burden is on Applicants to demonstrate that the product of Applicants' claims is distinct from the product of the prior art. In this regard, Applicants respectfully direct the Examiner's attention to the Examples and Comparative Examples of the specification. Table 1 (page 24 of the specification) demonstrates that the stretched films of Comparative Examples 1-3, which were obtained through stretching at ratios of 3×3 times at 45°C, 60°C and 80°C, respectively, and the stretched films of Comparative Examples 4 and 5, which were obtained through stretching at ratios of 4.0×4.0 times at 80°C and 4.5×4.5 times at 80°C, respectively, caused an increase in the crystal melting point ( $T_m$ ) of only 0°C, 1°C or 2°C compared to Comparative Example 6, which is unstretched.

On the contrary, Examples 1-4, which were obtained through stretching at 4.0×4.0 at 45°C, 4.5×4.5 at 45°C, 4.0×4.0 at 60°C and 4.5×4.5 at 60°C, respectively, exhibited an extremely remarkable increase in  $T_m$  of 8-9°C compared to Comparative Example 6 (unstretched). Thus, Examples 1-4 clearly fulfill the requirement of Applicants' claim 1, i.e., that the stretched

product has a  $T_m$  higher by at least 3°C than the unstretched product. On the contrary, Comparative Examples 1-5 fail to fulfill this requirement.

This comparison demonstrates that simply because Shiiki et al. teaches a gas barrier multi-layer hollow container with a polyglycolic acid layer, where the aliphatic polyester can be comprised of 98 wt% of glycolide and 2 wt% lactide, does not mean the stretched product necessarily fulfills the limitations of Applicants' claims. Thus, the Examiner's assertion that the product of the prior art and Applicants' product have identical properties is untenable.

Additionally, the Examples and Comparative Examples of Applicants' specification clearly demonstrate that the product recited in Applicants' claims is obtainable only by stretching at a ratio exceeding  $3\times 3$  times at a temperature of 45-60°C (i.e., a temperature just above the glass transition temperature). The Examiner asserts that Shiiki et al. disclose a substantially similar stretching process, where the stretching is conducted at a specific temperature that is not substantially higher than the glass transition temperature of the crystalline aliphatic polyester, but not higher than its melting point. Thus, the Examiner appears to take the position that a stretching ratio of  $2\times 3$  times and a stretching temperature of 80°C, as in the reference, should result in a product with the desired properties.

However, item 6 of Applicants' Declaration filed September 26, 2008 indicates that the intense stretching effects can only be achieved by stretching at a large ratio (exceeding  $3\times 3$  times) and at temperatures of 45-60°C (just above the glass transition temperature). A comparison between Comparative Examples 4 and 5, and Examples 1-4 of Applicants' specification clearly demonstrates that the desired product (with an increased melting point by 3°C of stretched product) is **not** achieved with a stretching temperature of 80°C, even when the stretching ratio exceeds  $3\times 3$ . Similarly, a comparison between Comparative Examples 1 and 2 and Examples 1-4 of Applicants' specification clearly demonstrates that the desired product is **not** achieved with a stretching ratio of  $3\times 3$ , even when the stretching temperature is 45°C or 60°C. Thus, it is clear that the process of Shiiki et al. is **not substantially similar** to the process disclosed in Applicants' specification, since the process of Shiiki et al. has neither the relevant stretching temperature nor the relevant stretching ratio.

The rejection set forth by the Examiner is based upon anticipation and obviousness. In order for a reference to anticipate a claim, it is necessary that each and every element of the

claim be present in a single reference. As clearly demonstrated above, Shiiki et al. fail to teach each and every element of Applicants' amended claims.

Additionally, the Shiiki et al. reference fails to provide any motivation for one of ordinary skill in the art to alter the teachings of the reference in order to obtain Applicants' claimed product. Any assertion to the contrary would be based on impermissible hindsight.

For these reasons set forth above, Applicants assert that the presently claimed invention is not anticipated by, nor rendered obvious by, the teachings of Shiiki et al. Accordingly, it is respectfully requested that the above-rejection be withdrawn.

**Conclusion**

Therefore, in view of the foregoing amendments and remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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